REMARKS

Reconsideration of this application, in view of the foregoing amendments and the following remarks, is respectfully requested.

Rejection under 35 USC §102(b)

Claims 1-10 stand rejected under 35 U.S.C. 102(b) as being clearly anticipated by Constant (4,228,517). Applicant respectfully traverses this rejection.

Applicant would like to respectfully point to the Examiner that to anticipate a claim under 35 USC §102(b), the reference must teach each and every element of the claim. *See* MPEP §2131. Claim 1 recites: 1) an IIR filter of order less than n; 2) operating the IIR filter on a time sharing basis; 3) plurality of times such that the plurality of times multiplied by the order of the IIR filter is equal to or greater than n. Further, claims 9 and 10 recite the number of clock cycles required for computing an output is independent of filter coefficients of the filter.

In rejecting claim 1, the Examiner has generally cited figures 1 and 2 of Constant allegedly describing everything recited in claim 1. Further as to claims 9 and 10, the Examiner has stated that "...**means (3)** as the claimed decoder for **sequentially sets** the **filter coefficients** (13) to the lower-order IM filter (24,26-29), and the **number of clock cycles** required for computing an output of the IM filter **clearly independent** of the **values of the coefficients** as claimed." (Emphasis added).

First, in the cited figures and corresponding description, Constant does not teach, suggest, or describe the time sharing of the recursive filter for plurality of times such that the plurality of times multiplied by the order of the filter produces output that is equal to or greater than n, as recited in claim 1. Second, as to the number of clock cycles, the Examiner has stated that means (3) **sequentially sets** coefficients. Applicants respectfully point to the Examiner that means (3) is a delay line and as the Examiner has also observed, sets coefficients sequentially, which means that to set a coefficient sequentially, it must require a number of clock cycles that is proportional to the value of the word (coefficient) that is being set in the delay line. Otherwise, the coefficients cannot be set sequentially.

Further according to Constant, words in delay lines 1, 2, and 3 are synchronously outputted in sequence to multipliers 6 and 8 (*see* col. 5, lines 42-45). Thus requiring a number of clock cycles that is proportional to the values stored in delay lines 1, 2, and 3. Furthermore according to Constant, Multiplexer 4 and integrator 5 provide for rotation and shifting of words in delay line 1 (*see* col. 5, lines 47-52), which also requires a number of clock cycles that is proportional to the value of words (coefficients) stored in the delay line 1. Furthermore according to Constant, clock 11 provides signals which synchronize the operation of delay lines 1, 2, 3, multiplexer 4, multiplexers 6, 8, and integrators 5, 9, and for shifting signals Xn, Yn, α, and β from instant to instant (*see* col. 6, lines 34-38). Thus, clock 11 must correspond to the values of words processed by these elements otherwise the synchronization will fail. Therefore, Constant does not teach limitations of claims 9 and 10 and accordingly, does not anticipate claims 9 and 10.

Furthermore, claims 4 and 7 recites a decoder **coupled** to an **input terminal** of the IIR filter. The Examiner has cited means (3) as the claimed decoder. Applicants respectfully point to the Examiner that in Constant, an input word sequence Xn is applied to delay line 1 through the multiplexer 4 where coefficients are applied directly to memories (delay lines) 2 and 3 (*see* figure 1, col. 5, lines 16-30). Thus, Constant does not teach limitations of claims 4 and 7. Accordingly, Constant does not teach each and every limitation of claims 1-10 as required under 35 USC §102(b) to anticipate these claims and claims 1-10 are patentably distinguishable from Constant.

Applicant believes this application and the claims herein to be in a condition for allowance. Should the Examiner have further inquiry concerning these matters, please contact the below named attorney for Applicant.

Respectfully submitted,

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